

# EMERGENCY COOLING DEVICE FOR VACUUM HEAT TREATMENT FURNACE

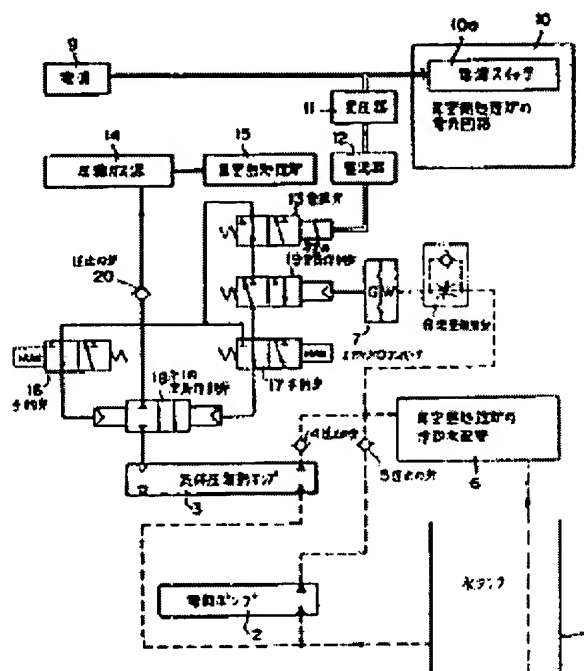
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## Abstract of JP1230986

**PURPOSE:** To obtain a small and inexpensive emergency cooling device, which prevents a vacuum heat treatment furnace from thermal breakdown, by a method wherein the supply of cooling water for the vacuum heat treatment furnace is not stopped immediately and is continued for a predetermined period of time upon electric service interruption and the like.

**CONSTITUTION:** Upon the normal operation of a vacuum heat treatment furnace, water in a water tank 1 flows through a cooling water pipeline 6 by a motor pump 2 and cools the vacuum heat treatment furnace. When electric service is interrupted and the like, the motor pump 2 stops and the conduction of a solenoid valve 13 is stopped. In this case, an air operating valve 19 at the side G of air of an air hydroconverter 7 is held in a communicating condition, therefore, compressed gas moves the air operating valve 18 through a non-return valve 20, the solenoid valve 13, the air operating valve 19 and a manual valve 17. According to this operation, the compressed gas drives a gas pressure driving pump 3 to transfer the water in the water tank 1 to the cooling pipeline of the heat treatment furnace and cool it. This state is continued for a several seconds after the service interruption and the heat treatment furnace is cooled in this period, therefore, the thermal breakdown of the heat treatment furnace may be precluded.



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